Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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*Ex parte* BERND MAYER, MICHAEL GRABBE,
HEINZ RINK and UWE MEISENBURG

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Appeal No. 1998-3147
Application 08/564,304

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ON BRIEF

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Before KIMLIN, OWENS and DELMENDO, *Administrative Patent Judges.*

OWENS, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This is an appeal from the examiner's final rejection of claims 1-16, which are all of the claims in the application.

*THE INVENTION*

The appellants claim a process for preparing a polyurethane in the presence of ethoxyethyl propionate as a

solvent. Claim 12 is illustrative:

12. Process for the preparation of polyurethanes and aqueous polyurethane dispersions comprising forming a polyurethane in the presence of ethoxyethyl propionate as viscosity-regulating, nonreactive component.

*THE REFERENCES*

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|---|---|---|
| Blum et al. (Blum) | 4,981,921 | Jan. 1, 1991 |
| Chandalia et al. (Chandalia) | 5,360,642 | Nov. 1, 1994 (filed May 24, 1993) |
| Hille et al. (Hille) | 5,370,910 | Dec. 6, 1994 (§ 102(e) date Feb. 26, 1992) |

*THE REJECTION*

Claims 1-16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hille in view of Chandalia and Blum.

*OPINION*

We reverse the aforementioned rejection and remand the application to the examiner.

Hille discloses a process for making a polyurethane resin by preparing an intermediate from a specified mixture of diols, diisocyanates and compounds which contain two groups reactive toward isocyanate groups and have at least one group capable of forming anions, the reaction optionally taking

place in a solvent, acetone and methyl ethyl ketone being particularly suitable solvents, and reacting the free isocyanate groups of the intermediate with specified polyols (col. 3, line 8 - col. 4, line 21).

Chandalia discloses a coating composition which is to be subsequently moisture cured and which consists essentially of at least one polyisocyanate prepolymer which is the reaction product of a polyisocyanate with an active hydrogen-containing compound which can be a polyol (col. 2, lines 53-61; col. 6, lines 37-41). The composition can contain a solvent, the disclosed suitable solvents including methyl ethyl ketone and ethoxyethyl propionate (col. 6, lines 1-17).[1]

The examiner argues that it would have been obvious to one of ordinary skill in the art to use ethoxyethyl propionate as Hille's solvent because Chandalia teaches the equivalence of ethoxyethyl propionate and methyl ethyl ketone as solvents (answer, page 4).

Hille teaches that his solvents preferably are inert to isocyanate groups (col. 4, lines 14-15; col. 7, lines 28-34).

[1] Blum is relied upon by the examiner (answer, page 3) only for a disclosure of butoxypropanol as recited in the appellants' dependent claim 3.

Chandalia's solvents meet this requirement (col. 6, line 3). Hille, however, teaches that his solvents preferably are miscible with water, are good solvents for the resulting polyurethane, and are easily separated from Hille's aqueous mixtures (col. 4, lines 16-20; col. 7, lines 28-34). The examiner has not established that Chandalia's ethylethoxy propionate has these properties or explained why, if Chandalia's ethylethoxy propionate does not have these properties, one of ordinary skill in the art would have been led by the applied references to select it for use in Hille's process rather than being led to select a solvent having Hille's desired properties. Nor has the examiner established that the processes of Hille and Chandalia are sufficiently similar that Hille's disclosure that his desired solvent properties are merely preferred would have led one of ordinary skill in the art to use in Hille's process any solvent disclosed by Chandalia regardless of its properties.

For the above reasons, we conclude that the examiner has not carried the burden of establishing a *prima facie* case of obviousness of the invention recited in any of the appellants'

claims. Accordingly, we reverse the examiner's rejection.

*REMAND*

The appellants' claim 12 requires that the process forms a polyurethane. Polyurethanes have been defined as "[a] group of synthetic materials characterized by the methane [sic, urethane][2] group -NH‖CO‖O-".[3] Chandalia's polyisocyanate prepolymer is the reaction product of a polyisocyanate and an active hydrogen-containing compound which can be a polyol (col. 2, lines 58-61) and, therefore, has -NH‖CO‖O- groups.

We remand the application to the examiner for the examiner to reopen prosecution and for the examiner and the appellants to address on the record whether "polyurethane" in the appellants' claim 12, when given its broadest reasonable interpretation consistent with the specification, *see In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); *In re Sneed*, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983); *In re Herz*, 537 F.2d 549, 551, 190 USPQ 461, 463 (CCPA 1976); *In re Okuzawa*, 537 F.2d 545, 548, 190 USPQ

[2] *See Hackh's Chemical Dictionary* 703 (Julius Grant ed., McGraw-Hill 1969).

[3] *Id.* at 536.

464, 466 (CCPA 1976), encompasses Chandalia's polyisocyanate prepolymer and, if so, whether Chandalia's disclosures that the polyisocyanate prepolymer can be combined with a solvent (col. 2, lines 58-66) and that suitable solvents include ethylethoxy propionate (col. 6, lines 1-17) would have fairly suggested, to one of ordinary skill in the art, the process recited in the appellants' claim 12.

*DECISION*

The rejection of claims 1-16 under 35 U.S.C. § 103 over Hille in view of Chandalia and Blum is reversed. The application is remanded to the examiner.

*REVERSED and REMANDED*

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| EDWARD C. KIMLIN<br>Administrative Patent Judge | ) | |
| TERRY J. OWENS<br>Administrative Patent Judge | ) | BOARD OF PATENT APPEALS AND INTERFERENCES |
| ROMULO H. DELMENDO<br>Administrative Patent Judge | ) | |

BASF CORPORATION
PATENT DEPARTMENT
26701 TELEGRAPH ROAD
SOUTHFIELD, MI 48033-4244

TJO:caw